The Classroom Activity introduces students to the context of a performance task, so they are not disadvantaged in demonstrating the skills the task intends to assess.

Contextual elements include:
- an understanding of the setting or situation in which the task is placed;
- potentially unfamiliar concepts that are associated with the scenario; and
- key terms or vocabulary students will need to understand in order to meaningfully engage with and complete the performance task.

The Classroom Activity is also intended to generate student interest in further exploration of the key idea(s). The Classroom Activity should be easy to implement with clear instructions.

Please read through the entire Classroom Activity before beginning the activity with students to ensure any classroom preparation can be completed in advance.

Throughout the activity it is permissible to pause and ask students if they have any questions.

Resources Needed:
- Chart paper, whiteboard, or chalkboard
- Markers or chalk
- One piece of paper and a pencil for each group.
  - Students who need an accommodation may use their preferred tool for writing.
- Some method of displaying ancillary materials[1]

Learning Goal:
Students will understand the context of the key concepts related to the topic:
- Technology is constantly changing and subject to the wants and needs of humans.

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[1] Facilitators can decide whether they want to display ancillary materials using an overhead projector or computer/Smartboard, or whether they want to produce them as a handout for students.

Technology of the Future Classroom Activity

[Purpose: The facilitator's goal is to introduce students to the idea that technology is constantly changing and subject to our needs. This activity will allow students to be active participants as they explore the future of technology.]

Note: The following section can be modified to accommodate various teacher-student interaction types such as a teacher-led discussion with the entire class, a teacher-student discussion for remote locations with a single student, or small groups.

[Divide the students in small groups of two to four students. Give each group a piece of paper and a pencil.]

[Display Figures 1–3. Note: For students who are visually impaired, read the description below the photo. Write and read aloud the following question on the board: "How has each of these three examples of outdated technology changed?"]

Facilitator says: "Technology is constantly changing. Here are three examples of outdated technology:

"The first is the rotary phone, which dates back to the early 1900s. If you wanted to call someone, you had to place your finger in the hole for the appropriate number, rotate the dial clockwise, wait for it to return to the original position, and then go to the next number to repeat all those steps.

"The second image is of a typewriter, which was invented in the 1800s. In order to write out a document, you had to insert paper, line it up correctly, and then begin typing on the keyboard. When you pressed on a key, a little lever with an imprint of that letter or symbol would fly up, hit the ink, and then press that letter or symbol on the paper like a stamp. If you made a mistake, you either had to use whiteout, or start all over by using a blank sheet of paper.

"The final image is of a horse and carriage. The use of horse-drawn carriages was common in the 1800s. In order to travel quickly, you had to harness a horse to the carriage and the animal would then pull the carriage to wherever you needed to go.

"Now that you know how this technology was used, work with your small group to answer the following question on the paper provided: How have each of these three examples of outdated technology changed?"

[Give the students three minutes to discuss and write down their thoughts.]

[After about three minutes, have students share their ideas with the class. Ask the students to share their responses to the question and record them on the board or chart paper under the initial question. This discussion should last about three minutes.]

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Possible class discussion answers (*unscripted*):
- Rotary Phone
  - Replaced with cell phones
  - Phones today do not have a cord/are portable
  - Phones today use touch screen/buttons
  - Phones are battery powered
  - Cell phones connect to Internet
  - Cell phones can use text messaging
  - Phones today are smaller
- Typewriter
  - Replaced with desktop computers/laptops/tablets
  - Electricity or batteries are used
  - There are easier ways to correct errors
  - Modern devices are smaller and portable
- Horse and Carriage
  - Automobiles, planes, trains are used
  - No animal is needed
  - Faster travel time
  - Easier and safer to travel
  - More comfortable

[Next, write and read aloud the following question on the board: "Why did each of these three examples of outdated technology change?"]

Facilitator says: "All three of these outdated technologies have changed over the years. Take three minutes to work with your group to answer the following question on the paper provided: 'Why did each of these three examples of outdated technology change?'"

[Give the students three minutes to discuss and to write down their thoughts.]

[After about three minutes, have students share their ideas with the class. Ask the students to share their responses to the question and record them under the initial question. This discussion should last about five minutes.]

Possible class discussion answers (*unscripted*):
- Rotary Phone
  - People want to be able to leave their home, but still be in contact.
  - People want to be able to talk to others without doing it verbally so they use text messages.
  - Rotary phones took a longer time to dial; push button/touch screen phones are faster to use.
- Typewriter
  - Laptops/tablets are portable and can be used anywhere.
  - Computers allow for easy correction of mistakes without starting over.
  - Typewriters can run out of ink, while a computer is always ready to go.

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- Horse and Carriage
  - Speed of carriages was limited by the number of horses attached to the carriage, road conditions, and weather; cars, planes, and trains are faster.
  - Horses are animals and can be unpredictable, so it is safer to have a more predictable machine.
  - Cars, planes, and trains are more comfortable to ride in for a long time.
  - Other modes of transportation, such as planes and trains, can get you to your destination faster.

[When the discussion is finished, write and read aloud "The Future?" on the board.]

Facilitator says: "If you look at the reasons you have provided, they all fit in roughly the same idea:
The evolution of technology is often connected to our wants and needs. We want to be able to reach our friends and family as quickly as possible, so we have cell phones that we can keep right in our pockets. We want an easier way to write out documents clearly, so we have computers, laptops, and tablets. We want to get to places faster and be more comfortable when we travel, so we have automobiles and planes. Remember, also, that technology is constantly changing as we discover easier ways of meeting our needs. With your group, take two minutes to discuss some thoughts on how these outdated technologies will continue to change in the future. What will cell phones, computers, and cars look like in the future? We will share ideas when you are finished."

[After about two minutes, have students meet as a class to share their ideas. Ask the students to share their responses to the question and record them under the initial question. This discussion should last about three minutes.]

Possible class discussion answers (*unscripted*):
- Cell Phone
  - Flexible telephones
  - Wrist telephones
- Computers
  - Computers in contact lenses
  - Computers that require a gesture or voice command instead of typing
- Cars
  - Self-driving/robotic cars (just program destination and go)
  - Flying cars

Facilitator says: "These are all fantastic ideas! Remember that technology is always a part of human life, no matter how small or technical it may be. Technology is also constantly changing and usually based on our human wants and needs. As technology changes and grows, we are able to discover faster and easier ways of meeting those needs. You are now ready to complete your performance task. Please leave your recorded notes and pencils behind to be collected."

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Rotary Phone

Picture Description: This picture shows a rotary telephone. The center of the phone has a wheel or disk with finger holes that is attached to the phone and rotates to match up the finger holes with the letters and digits of a telephone number. To use the rotary phone, you insert your finger into the hole corresponding to the number you want to dial, then turn the dial clockwise until your finger hits the silver, curved bar, or finger stop. The dial then resets so the next number can be dialed. The hole for number one is nearest to the bar, so dialing this number requires the shortest turn. The zero is farthest from the bar. There is a handset attached to the phone with a cord. The handset rests on the top backside of the phone. The middle of the handset is flat, so it can be held in the hand. The two ends of the handset are round—with one end of the handset for listening and the other for speaking. The telephone weighs a few pounds and has a rectangular base that is about seven inches long and five inches wide. A special cord connects the phone to the wall.

Stock Photo—Rotary Telephone (Image *1598R-144904-R-X999*), Copyright by SuperStock. Used by permission.

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Typewriter

Picture Description: This picture shows an old-fashioned manual typewriter. It requires no electricity or battery to operate. This particular typewriter is made of metal and is mostly black. Its keyboard, similar to today's computer keyboard, has 49 round buttons in primarily four rows, as well as a space bar, making a total of 50 keys located toward the bottom of the machine. Most of the keys have a letter, number, or other symbol on it. When the keys are pressed down, thin levers, known as hammers, located above the keys, strike an ink strip, known as a ribbon; then the paper will show in black the letter or symbol that was pressed. In the picture, a piece of paper has been fed halfway into the top of the typewriter.

Stock Photo—old fashioned, vintage typewriter isolated on white background with a blank sheet of paper inserted (Image *4193R-254-R-X999*), Copyright by SuperStock. Used by permission.

Horse and Carriage

Picture Description: This photo shows the front view of a white horse pulling a carriage, a form of transportation commonly used prior to the invention of planes, trains, and automobiles. A set of straps, known as a harness, connects the horse to the carriage. Two poles, attached to the front of the carriage, are positioned on each side of the horse and connect to the horse's harness. The carriage has four wheels—a larger set on the back and a smaller set on the front. Each set of wheels is connected with a pole, known as an axle. The front of the carriage has a seat for the carriage driver to sit. A horse whip is propped up beside the seat. Behind where the carriage driver sits is a seat for the passengers. There is a canopy above the passenger seat, which provides shelter from the weather. Curtains tied back on each corner can be closed for privacy. Black squares called blinders cover the horse's eyes to minimize distractions. The horse and carriage are parked in an historical setting beside an old building, with another building with old-fashioned windows in the background.

Stock Photo—Horse drawn carriage in street, Valetta, Malta (Image *1841-46708-N-X999*), Copyright by SuperStock. Used by permission.

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